

**REMARKS**

Applicants thank the Examiner for the very thorough consideration given the present application. Claims 1-12 and 14-36 are currently pending in this application. None of the claims have been amended. Accordingly, no new matter has been added.

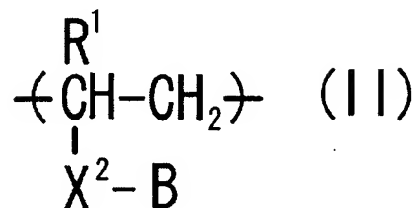
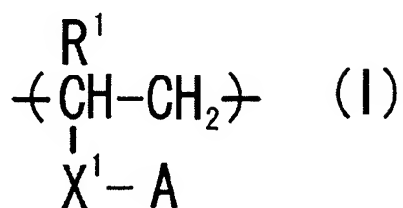
In view of the remarks herein, Applicants respectfully request that the Examiner withdraw all outstanding rejections and allow the currently pending claims.

**Issues Under 35 U.S.C. § 112, second paragraph**

Claims 1-12 and 14-36 stand rejected under 35 U.S.C. § 112, 1<sup>st</sup> paragraph, as failing to comply with the written description requirement. Applicants respectfully traverse.

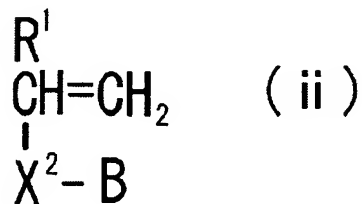
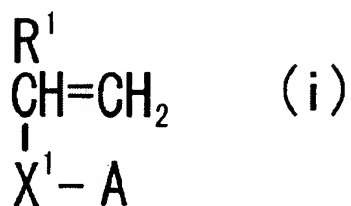
Specifically, the Examiner argues that polymer (A) is not explicitly defined, and refers to a statement in Polymer Structure, 2003, which “states there are many ways a monomers (sic) of a polymer can be arranged and further states that copolymers may be branched, random, block or graft in their structure.” Applicants respectfully disagree.

As specified in claim 1, polymer (A) comprises repeating units represented by the following formula (I) and repeating units represented by the following formula (II):



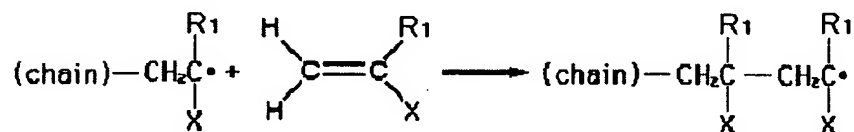
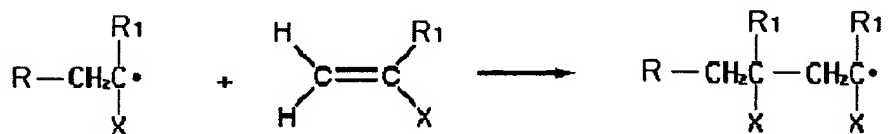
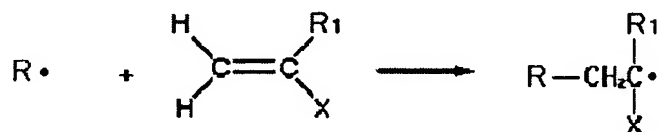
The Examiner's attention is respectfully directed to page 11, lines 19-22 of the Specification, where Applicants describe a method for preparing the polymer (A): "The polymer (A) can be prepared by subjecting monomers for respective repeating units to an addition-reaction in the presence of an initiator for radical polymerization such as benzoyl peroxide, laulyol peroxide, and azobisisobutyronitrile."

From the above description, it is apparent that polymer (A) is prepared from a monomer represented by the following formula (i) and a monomer represented by the following formula (ii):



At page 12 of the present Specification, Applicants provide examples of the monomer (i) represented by formulae (5) and (6). An example of the monomer (ii), represented by formula (7), is also described.

The addition-reaction of monomers (i) and (ii) in the presence of the initiator for radical polymerization proceeds as shown in the following figures:



wherein,  $R^\bullet$  represents a free radical originating from the initiator for radical polymerization, and X represents  $X^1$ -A in formula (i), or  $X^2$ -B in formula (ii).

As is evident from the above figure, the obtained polymer (polymer (A)) is a linear polymer without a branch or a graft. In addition, since X can be either  $X^1$ -A or  $X^2$ -B, polymer (A) is a random copolymer in which the repeating units (I) and (II) are bonded along the polymer chain in a random order. When the repeating unit (III) is present, polymer (A) is a linear random copolymer in which repeating units (I), (II) and (III) are bonded along the polymer chain in a random order.

The structure of the polymer (A) is thus disclosed in the above-cited portions of the Specification. Further, Preparation Examples 1 to 4 in the Specification describe the precise reaction conditions for the addition-reaction, such as temperature and time.

Accordingly, Applicants submit that claims 1-12 and 14-36 comply with the written description requirement of 35 U.S.C. 112, 1<sup>st</sup> paragraph.

Reconsideration and withdrawal of this rejection are thus respectfully requested.

**Issues Under 35 U.S.C. § 112, second paragraph**

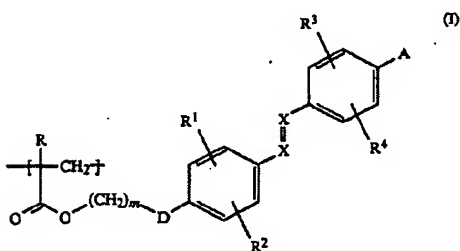
Claims 1-12 and 14-36 stand rejected under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. Applicants respectfully traverse.

The Examiner asserts that, with regard to claim 1, "[i]t is unclear how (I) and (II) are attached". Applicants respectfully disagree.

Polymer (A) is distinctly identified in claim 1. It is apparent from formulas (I) and (II) that the repeating units are derived from monomers having ethylenically unsaturated bonds, and that polymer (A) is linear. The term "random" is not used but is deemed unnecessary.

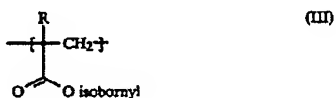
The Examiner's attention is respectfully directed to claim 1 in U.S. Patent 5,384,378, reproduced below for the Examiner's convenience:

1. A copolymer with non-linear optical properties, comprising repeating units of the formula (I)



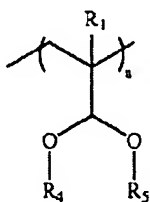
where

D is an electron donor,  
 A is an electron acceptor,  
 $R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$  can be the same as or different from one another, and are each H, alkyl of 1-6 carbons, cycloalkyl of 5 or 6 carbons, or  $R^3$  and  $R^4$  are each CN,  $NO_2$ ,  $SO_3CH_3$  or CHO, or  $R^1$  forms with  $R^2$ , or  $R^3$  forms with  $R^4$ , a fused-on ring,  
 X is CH and/or N,  
 m is an integer from 2 to 11, and  
 R is hydrogen or methyl,  
 and repeating units of at least one of the formulae (III) and (IV)

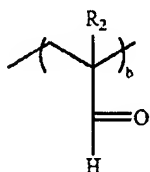


Moreover, the Examiner's attention is directed to claim 1 of U.S. Patent 7,081,325, also reproduced (below) for the Examiner's convenience:

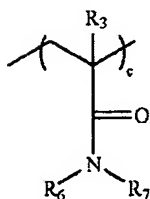
1. A photoresist polymer comprising a repeating unit of Formula 1, Formula 2 and Formula 3:



Formula 1



Formula 2



Formula 3

wherein

$R_1$ ,  $R_2$  and  $R_3$  individually are hydrogen or methyl;

$R_4$ ,  $R_5$ ,  $R_6$  and  $R_7$  individually are linear or branched  $C_1$ - $C_{10}$  alkyl;

$a$ ,  $b$  and  $c$  individually are numbers of repeating unit; and

the relative ratio of  $a:b:c$  is in the range of 10~50 mol %:0~30 mol %:50~80 mol %.

The copolymer of U.S. Patent 5,384,378 is prepared by free-radical copolymerization of the monomers in the presence of conventional free-radical polymerization initiators, e.g., azodiisobutyronitrile or benzoyl peroxide (see col. 3, lines 4-15). The photoresist polymer of U.S. Patent 7,081,325 is prepared from acrylic monomers in the presence of

azobisisobutyronitrile (see col. 5, lines 45-48; see also Example 1). The polymers of U.S. Patents 5,384,378 and 7,081,325 are prepared by an addition-reaction in the presence of an initiator for radical polymerization, as is the case with presently claimed Polymer (A).

As such, Applicants submit that claims 1-12 and 14-36 are not indefinite and comply with the requirements of 35 U.S.C. 112, 2<sup>nd</sup> paragraph.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

### **Conclusion**


All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and objections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Vanessa Perez-Ramos, Reg. No. 61,158 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: July 13, 2009

Respectfully submitted,

By 

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